Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A rare-earth sintered magnet of a composition of $(R1_x+R2_y)T_{100-x-y-z}Q_z$, where R1 is at least one element selected from the group consisting of all rare-earth elements excluding La, Y and Sc, R2 is Y and may optionally include La and/or Sc, T is Fe and may optionally include at least one element selected from the group consisting of all transition elements, and Q is B and may optionally include C, and comprising a crystal grain of an $Nd_2Fe_{14}B$ type compound as a main phase, wherein:

molar fractions x, y and z satisfy

$8 \leq x \leq 18$ at%,

~~$0.1 \leq y \leq 3.5$ at%~~ $0.5 < y \leq 3.0$ at% and

$3 \leq z \leq 20$ at%, respectively; and

a concentration of R2 is higher in at least a part of a grain boundary phase than in the crystal grain, and

wherein an amount of oxygen is in a range of 2000 ppm to 8000 ppm by weight.

2. (Original) The rare-earth sintered magnet according to claim 1, wherein the molar fractions x and y satisfy $0.01 \leq y/(x+y) \leq 0.23$.

3. (Canceled)

4. (Canceled)

5. (Currently Amended) A method of producing a rare-earth sintered magnet, comprising the steps of:

preparing a powder of a rare-earth alloy having a composition of $(R1_x+R2_y)T_{100-x-y-z}Q_z$ where R1 is at least one element selected from the group consisting of all rare-earth elements excluding La, Y and Sc; R2 is Y and may optionally include La and/or Sc; T is Fe and may optionally include at least one element selected from the group consisting of all transition elements; and Q is B and may optionally include C, wherein molar fractions x, y and z satisfy $8 \leq x \leq 18$ at%, ~~$0.1 \leq y \leq 3.5$ at%~~ $0.5 < y \leq 3.0$ at% and $3 \leq z \leq 20$ at%, respectively, and wherein an amount of oxygen included in the rare-earth alloy powder is in a range of 2000 ppm by weight to 8000 ppm by weight; and

sintering the rare-earth alloy powder,

wherein R2 existing in a main phase crystal grain of an $Nd_2Fe_{14}B$ crystalline structure in the rare-earth alloy before sintering is diffused into a grain boundary phase in the sintering step, whereby a concentration of R2 is higher in at least a part of the grain boundary phase than in the crystal grain.

6. (Canceled)

7. (Original) The method of producing a rare-earth sintered magnet according to claim 5, wherein R1 existing in the grain boundary phase in the rare-earth alloy before sintering is diffused into the main phase crystal grain during the sintering step.

8. (Original) The method of producing a rare-earth sintered magnet according to claim 5, wherein an oxide of R2 is formed in the grain boundary phase during the sintering step.

9. (Original) The method of producing a rare-earth sintered magnet according to claim 5, wherein the sintering step comprises a first step of maintaining the rare-earth alloy powder at a temperature in a range of 650 to 1000°C for 10 to 240 minutes, and a second step of further sintering the rare-earth alloy powder at a temperature higher than that used in the first step.

10. (Original) The method of producing a rare-earth sintered magnet according to claim 5, wherein the rare-earth alloy powder is obtained through pulverization in a gas whose oxygen concentration is controlled.

11. (Original) The method of producing a rare-earth sintered magnet according to claim 5, wherein the rare-earth alloy powder is obtained through pulverization in a gas whose oxygen concentration is controlled to be 20000 ppm or less.

12. (Original) The method of producing a rare-earth sintered magnet according to claim 5, wherein an average particle diameter (FSSS particle size) of the rare-earth alloy powder is 5 μm or less.

13. (Currently Amended) A rare-earth sintered magnet, having a composition of $(R1_x+R2_y)(T1_p+T2_q)_{100-x-y-z-r}Q_zM_r$ where R1 is at least one element selected from the group consisting of all rare-earth elements excluding La, Y and Sc, R2 is Y and may optionally include La and/or Sc; T1 is Fe, T2 is at least one element selected from the group consisting of all transition elements excluding Fe, Q is B and may optionally include C, and M is at least one element selected from the group consisting of Al, Ga, Sn and In, and comprising a crystal grain of an $Nd_2Fe_{14}B$ type compound as a main phase, wherein:

molar fractions x, y, z, p, q and r satisfy

$8 \leq x+y \leq 18$ at%,

~~$0 < y \leq 4$ at%~~ $\underline{0.5 < y \leq 3.0 \text{ at\%}}$,

$3 \leq z \leq 20$ at%,

$0 < q \leq 20$ at%,

$0 < q/(p+q) \leq 0.3$ at% and

$0 \leq r \leq 3$ at%, respectively; and

wherein an amount of oxygen is in a range of 2000 ppm to 8000 ppm by weight and a concentration of R2 is higher in at least a part of a grain boundary phase than in the crystal grain.

14. (Canceled)

15. (Canceled)

16. (Original) The rare-earth sintered magnet according to claim 13, wherein T2 includes at least Co.

17. (Canceled)

18. (Currently Amended) A method of producing a rare-earth sintered magnet, comprising the steps of:

preparing a powder of a rare-earth alloy having a composition of $(R1_x+R2_y)(T1_p+T2_q)_{100-x-y-z-r}Q_zM_r$ where R1 is at least one element selected from the group consisting of all rare-earth elements excluding La[[()]], Y and Sc , R2 is Y and may optionally include La and/or Sc; T1 is Fe, T2 is at least one element selected from the group consisting of all transition elements excluding Fe, Q is B and may optionally include C, and M is at least one element selected from the group consisting of Al, Ga, Sn and In), and comprising, as a main phase, a crystal grain of an $Nd_2Fe_{14}B$ crystalline structure, wherein:

molar fractions x, y, z, p, q and r satisfy

$8 \leq x+y \leq 18$ at%,

~~$0 < y \leq 4$ at%~~ $\underline{0.5 < y \leq 3.0 \text{ at\%}}$,

$3 \leq z \leq 20$ at%,

$0 < q \leq 20$ at%,

$0 < q/(p+q) \leq 0.3$ at% and

$0 \leq r \leq 3$ at%, respectively, and

wherein an amount of oxygen included in the rare-earth alloy powder is in a range of 2000 ppm by weight to 8000 ppm by weight; and

sintering the rare-earth alloy powder,

wherein R2 existing in the main phase crystal grain of the $Nd_2Fe_{14}B$ crystalline structure in the rare-earth alloy before sintering is diffused into a grain boundary phase in the sintering step, whereby a concentration of R2 is higher in at least a part of the grain boundary phase than in the crystal grain.

19. (Canceled)

20. (Original) The method of producing a rare-earth sintered magnet according to claim 18, wherein R1 existing in the grain boundary phase in the rare-earth alloy before sintering is diffused into the main phase crystal grain during the sintering step.

21. (Original) The method of producing a rare-earth sintered magnet according to claim 18, wherein an oxide of R2 is formed in the grain boundary phase in the sintering step.

22. (Original) The method of producing a rare-earth sintered magnet according to claim 18, wherein the sintering step comprises a first step of maintaining the rare-earth alloy powder at a temperature in a range of 650 to 1000°C for 10 to 240 minutes, and a second step of further sintering the rare-earth alloy powder at a temperature higher than that used in the first step.

23. (Original) The method of producing a rare-earth sintered magnet according to claim 18, wherein the rare-earth alloy powder is obtained through pulverization in a gas whose oxygen concentration is controlled.

24. (Original) The method of producing a rare-earth sintered magnet according to claim 18, wherein the rare-earth alloy powder is obtained through pulverization in a gas whose oxygen concentration is controlled to be 20000 ppm or less.

25. (Original) The method of producing a rare-earth sintered magnet according to claim 18, wherein an average particle diameter (FSSS particle size) of the rare-earth alloy powder is 5 μm or less.